

GENDER, VALUES AND
ACHIEVEMENT MOTIVATION

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W. Dwyer

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ABSTRACT

This study was aimed at investigating two of several assumptions of the Theory of Achievement Choice proposed by Eccles et al. (1983) i.e. that men and women make achievement choices mediated in part by their gender schema and the values they hold. First year psychology students were asked to complete the Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978) and the Rokeach Value Survey (RVS; Rokeach, 1973) to uncover the relationship between psychological masculinity and femininity and each subject's ranking of personal values and to find out if both in turn were related to achievement orientations as measured by the Work and Family Orientation Questionnaire (WFOQ; Spence & Helmreich, 1978).

Results showed that psychological masculinity was related to agentic intrapersonal values and both, in turn, were related to achievement motivation. Femininity was related to communal interpersonal values which were involved in aspirations towards marriage and family but not related to achievement motivation.

INTRODUCTION

Over the last 20-30 years, in the social sciences, there has been a considerable output in theoretical and empirical analyses to explain sex differences in achievement patterns. While some women now occupy positions and jobs which were once traditionally male and more men are found in occupations that were previously regarded as traditionally female, more men still occupy the more prestigious, salaried professional jobs in our society and women remain concentrated in occupations such as clerical, sales, service and production, most of which are lower paid. In addition, women continue to be the main home-makers and child-care givers which are occupations that are unpaid and from which they receive little social recognition. Some of these sex differences in achievement can be understood in the light of social discrimination and institutional barriers. Psychological explanations are important too, particularly as there are very obvious exceptions to the overall trend.

In psychology the literature has moved from early demonstrations of sex differences to analyses of the deeper psychological processes involved in achievement behaviour. The psychological explanation for women's under-representation in the professions are as follows: "low self confidence (Barnett & Baruch, 1978; Crandall, 1969; Nicholls, 1975; Parsons, Ruble, Hodges & Small, 1976); fear of success (Horner, 1972); fear of loss of femininity (Tangri, 1972); unconscious sex-role ideology (Lipman-Blumen and Teckmayer, 1972); differential values and orientation (Parsons & Goff, 1980; Stein & Bailey, 1973; Tilke, 1981) and low independence (Hoffman, 1972; Stein & Bailey, 1973)" (reviewed by Eccles, 1984, p.101). Many of these explanations are essentially negative. The suggestion appears to be

that there is something not right, even abnormal about women. It would seem more appropriate and more explanatory to find out how achievement motivation has been conceived and whether the concept is relevant for both sexes.

Achievement Motivation

The concept of achievement motivation evolved from early work by Lewin (1926) with his defining of aspects of the motive to achieve. Murray (1938) defined personality in terms of needs that act in conjunction with processors from the perceived and objective environment. McClelland (1953) offered a general theory of motivation. He defined motives as tendencies that are learned and that both energize and direct behaviour toward specific goals. Using Murray's Schematic Apperception Test (TAT, 1938) and considering individual differences, Atkinson (1957) proposed the basic theory of achievement motivation which predicts the behaviour of individuals in a given situation rather than their long-term task orientated striving. Atkinson proposed that achievement motivation is the algebraic sum of the tendency to engage in an achievement-oriented activity and the tendency to avoid engaging in a task that might result in failure. Both of these tendencies are defined as functions of three variables present in varying amounts in all individuals. The tendency to achieve success (TS) is composed of the motive to achieve success (MS) and the subjective probability (PS) of the success and the incentive value of the success (IS). The relationship among the variables is multiplicative ($MS \times PS \times IS = TS$). Some investigations have suggested that the nature of achievement motivation is not the same for both sexes. Female achievement behaviours have been found to be so inconsistent and resistant to theoretical analyses that investigators tended to confine their studies to males (e.g. Atkinson & Feather, 1966; McClelland, Atkinson, Clark & Lowell, (1953). Alternatively,

different measures of achievement motivation were proposed for the two sexes (e.g. Mehrabian, 1968, 1969).

In laboratory studies achievement has been defined in terms of "task choice, persistence in the face of failure, task performance, speed of performance, scores on tests of motivation, anxiety, cognitive styles, achievement and aptitude. In the field educationalists and sociologists have defined it in terms of grades in school, scores on standardized tests of achievement and aptitude, course enrolment patterns, activity choices, performance in competitive activities such as sports or spelling bees, persistence in the classroom or on the job, motivational style, occupational choice, income, career advancement" (reviewed by Eccles, 1984, p.97).

Frieze et al. (1978) have reviewed the literature and found that sex differences occur in only some of these variables. It cannot be assumed that where sex differences were found in the reviewed variables that they were determined by similar factors. The achievement behaviours considered are so diverse. Where sex differences do occur they may be caused by failure to consider sex differences in mode of expression. Women with traditional family orientated interests may, for example, satisfy their achievement needs directly through domestic activities or community service or vicariously through the career achievement of their husbands or the accomplishments of their children. This is supported by a study by Veroff and Feld (1970).

In order to provide an explanation for these varied findings Eccles and her colleagues have proposed a comprehensive integrative theory of achievement choice (Eccles [Parsons] Adler, Futterman, Goff, Kaczala, Meece & Midgley, 1983). Instead of asking the negative question "why are women

not like men?" it proposes a positive alternative "why do men and women make the choices they do?"

A Model of Achievement Choice (see Figure 1)

The model rests on basic motivation theory, in particular the expectancy/value models of Lewin (1938); Atkinson (1964); Atkinson and Feather (1966). It treats long-range life defining choices as analogous to task choices. The model then links task achievement choices to expectancies for success and to the importance or value an individual places on available achievement options. The model is based on several assumptions:

- (1) That it is one's interpretation of reality not reality itself that more directly affects achievement choices.
- (2) That the influence of reality itself is mediated by the socialization process, by needs and values, personal causal attribution patterns, self-schemata, including gender schemata, and by the individual's understanding of the various choices themselves.
- (3) That, in turn, expectations and personal values influence achievement-related behaviours, including the decision to engage in certain activities, the strength of effort put in and the actual performance.
- (4) That expectations and values are central to self concept and are therefore critical mediations in achievement behaviour.

The purpose of this study is to investigate two of the variables assumed by the model to be centrally involved in achievement choice: values and gender schema.

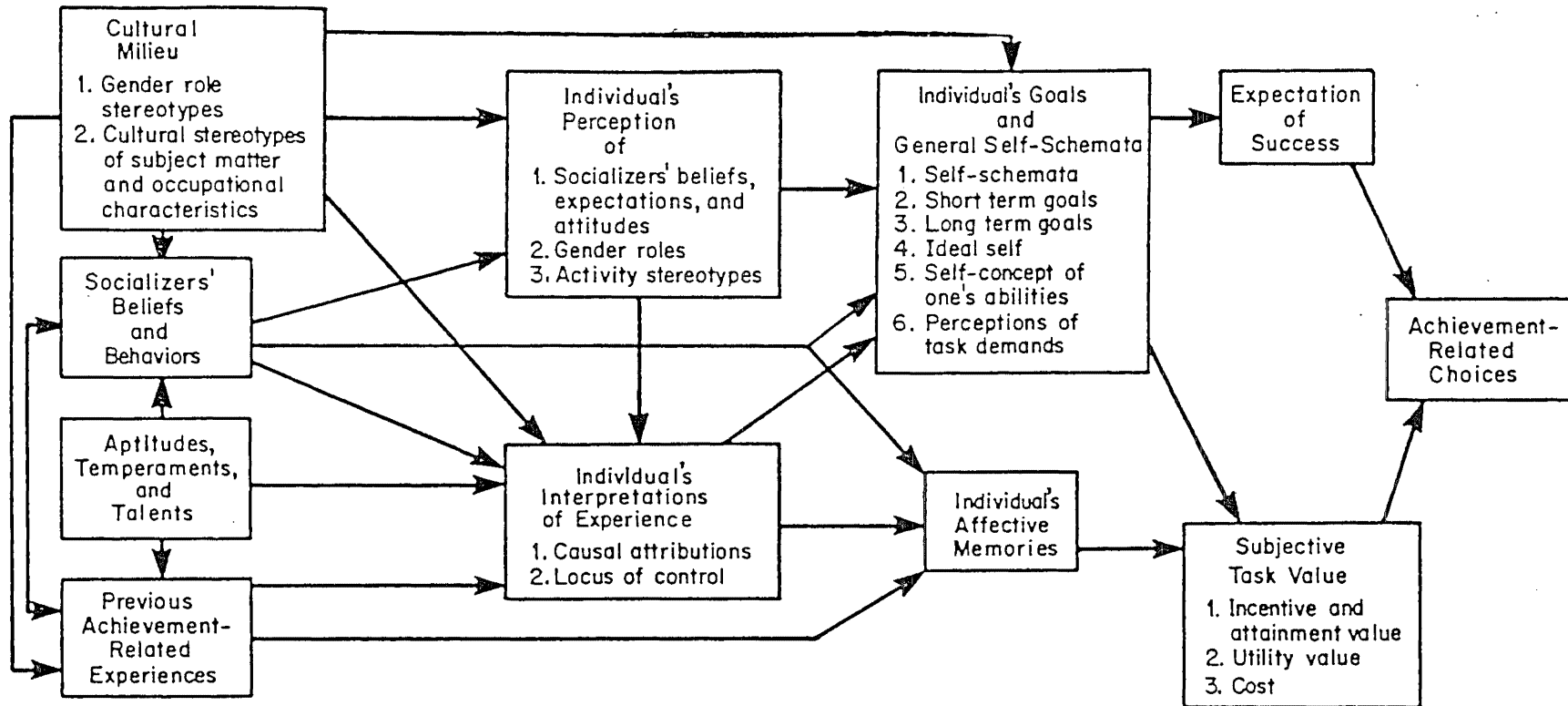


FIGURE 1. General model of achievement choices.

(Eccles, J. (1984). From Sex differences in achievement patterns. In Sonderegger, T.B. (Ed.). Psychology and gender. Nebraska Symposium on Motivation University of Nebraska Press: Lincoln and London, 1985.)

Gender Schema

The concept of schema has a long history in psychology (e.g. Bartlett, 1932). Schema has more recently been defined as "a cognitive structure embodying networks of meaning associated with particular attributes that together coalesce to form the self-concept" (Eiser, 1986, p.242). Cognitive schemas are assumed to be centrally involved in the processing of information. They are believed to provide a relatively stable criteria that enable individuals to interpret incoming information in ways that have meaning in terms of their perceptions and memory. Gender schema is assumed to be an important part of the self schema where beliefs about masculinity and femininity and about sex-linked attributes and behaviour are derived from sex differentiated practices of society (Bem, 1981, 1983). As children learn the contents of their society's gender schema they learn which attributes are associated with their own sex and hence with themselves.

The ways in which gender is socially represented create realities and common sense (Bem, 1987; Moscovici, 1976a, 1981). Individuals develop cognitive structures based on existing 'facts'. The 'facts' in turn guide interpretation over processing of information. Thus, a common sense or naive scientist acceptance of a proposition as 'real' creates a kind of reality to which other experiences must be related. Consequently, if a society's gender schema promotes females as gentle and submissive and males as aggressive and assertive it is likely that these associations will be incorporated into the gender schema of members of that society and hence become part of their self schema. In achievement situations individuals are likely to make selective perceptions and interpretations and consequently decisions consistent with their learned understanding of what is real and desirable for them.

Values

Values are also regarded as being part of the self schema. Eccles et al., in their achievement choice model, proposed that values are critically implicated in the self-concept and are also critical mediators in achievement behaviour.

In psychology the study of values has tended to be overlooked in favour of other cognitive constructs such as attitudes and causal attributions. As Levitin notes "The empirical investigation of values remains an isolated area within the field of social psychology.... In the related disciplines of anthropology and sociology it has received considerable attention" (Levitin, 1973, p.405). However, although anthropologists and sociologists have made major contributions to the conceptualization of values, the subject has not been totally overlooked in psychology. Value has been defined as "a general attitude" (Harvey & Smith, 1977, 1978); "a broader attitude", "a component of attitude", "a valence of all the goals" (McGuire, 1969, p.151), or as a bipolar evaluation (Fishbein & Ajzen, 1975, p.13) (reviewed by Rokeach, 1980, p.272). Rokeach, who believes that values are "deeper as well as broader than attitudes", defines a value as "an enduring belief that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or existence" (Rokeach, 1973, p.5). Rokeach conceives values to be enduring yet changing entities which are acquired over the maturation process and which individuals learn to integrate so that in particular contexts they can be ordered in priorities of importance relative to one another. Some values are self-centred or intrapersonal. Other values are socially centred or interpersonal. Attitudes and behaviour differ depending on whether personal or societal values have priority.

Rokeach believes that values can be broken down into two kinds: instrumental values and terminal values. Instrumental values refer to modes or ways of conduct. Terminal values refer to end states of existence. Instrumental values are of two kinds: moral and competence values. Moral values are those that tend to raise pangs of guilt, whereas competence values are self actualisation values which have an intrapersonal focus. Feather and Peay (1975) in their analysis of the 18 instrumental values of the Rokeach Value Survey (Rokeach, 1973) found evidence of dimensions which distinguished between a self assertive achievement orientation and an altruistic orientation. Other literature on values (e.g. Heider, 1958, and Kohler, 1938) points to the "oughtness" of values. Rokeach also proposes that like all beliefs, values have cognitive and affective components and are prescriptive or proscriptive beliefs which are intimately bound up with the self and are therefore relatively consistent across situations. Previous studies (Feather, 1984) have demonstrated that certain clusters of values i.e. agentic/instrumental and expressive/communal are linked to self-descriptive measures of masculinity and femininity.

Values, Gender Schema and Achievement Motivation

If, as the achievement choice model assumes, gender role socialization creates a gender differentiated hierarchy of core personal values, and if there is a relationship between gender schema and the ranking of personal values and if Eccles et al. (1983) are correct that both of these are central to the self-concept and therefore critical mediations of achievement choices, then there should be a relationship between values and both gender schema and achievement motivation. The purpose of the present study is to explore these assumptions by uncovering any significant relationship between values, gender schema and achievement motivation.

METHODOLOGY

Three psychometric instruments were used for this investigation: The Rokeach Value Survey (RVS, Rokeach, 1973); The Personal Attributes Questionnaire (PAQ, Spence & Helmreich, 1978); The Work and Family Orientation Questionnaire (WFOQ, Helmreich & Spence, 1978).

The RVS is a value survey which consists of two lists of values, instrumental and terminal. Both lists are arranged in alphabetical order. Subjects are required to rank the values in order of personal preference. The values lists were compiled by Rokeach from various sources i.e., a review of the literature on values in America, societal values, the author's own terminal values and those obtained from graduate studies. Rokeach has found that rankings of certain values can significantly predict various behaviours (Rokeach, 1973, 1979). For example, rankings of one value, equality, significantly predict the amount of eye contact with blacks, political activism and being a professor in the social sciences.

The PAQ is a self rating questionnaire consisting of 32 personality trait descriptions set up in a Lykert format. The questionnaire is divided into three eight-item scales, Masculinity (M), Femininity (F) and Masculinity/Femininity (MF). It was developed using socially desirable sex stereotypes.

Validity studies using high school and college students found males and females more frequently in the traditional category of their sex and males scoring most frequently in the MF scale. All scales have positive correlations with self-esteem, with the relationship between self-esteem and M scores being particularly striking in its magnitude. In measures of

achievement motivation masculinity has positive correlations with most achievement sub-categories (Spence & Helmreich, 1978).

The WOFO is an objective measuring instrument designed to predict achievement behaviours and aspirations. It comprises 32 questions about attitudes to components of achievement set up on 5-point bipolar scales. It is a multifactorial rather than unitary vehicle of measure which has thrown up six sub-scales (Mastery, Competitiveness, Work Orientation, Job Concerns, Personal Unconcern and Spouse Concerns). It has also three final questions which investigate separately the amount of education desired, the importance of marriage compared with a job, how many children the respondent would like to have.

Some of these items are original and others are items derived from scales developed by Mehrabian (1969). The education, marriage and family questions are included because of the belief that previous findings of sex differences in achievement behaviours may have been caused by failure to consider sex differences in mode of expression. The WOFO was devised on the assumption that achievement factors are the same for both sexes although mode of expression may be different. The version of the WOFO (WOFO-3) used in this study is the latest revised version of the original questionnaire. The authors have found it to yield the same factors with cleaner structure and higher reliability. The WOFO achievement sub-scales have been found to be positively related to self-esteem for both sexes. There were no significant relationships between femininity and any of the achievement sub-scales. When broken down by sex, however, more effects were found on two variables. Males were more concerned with having prestigious jobs and females were more concerned with having their spouse in good positions (Spence & Helmreich, 1978).

METHOD

Subjects

63 females and 43 male first-year psychology students volunteered to complete the questionnaires. Partly as an incentive but mostly because of an adaptation in the design of one of the questionnaires (The Rokeach Value Scale (Rokeach, 1973)) subjects were given pencils with erasers. The questionnaires were completed at the beginning of laboratory classes. Anonymity was guaranteed and subjects were asked not to confer.

Procedure

Respondents were handed a booklet entitled "The Survey". The covering sheet carried instructions and a brief explanation about the contents i.e. "The questionnaires ask about the kind of person you think you are, the values you hold and your reaction to work and challenging situations". Subjects were required to answer honestly and accurately and to complete demographic details of age and sex.

Each booklet comprised three sections. Section A consisted of the Rokeach Value Scale (RVS; Rokeach, 1973) and Section B The Personal Attribute Questionnaire (PAQ; Spence & Helmreich, 1978). Section C consisted of the Work and Family Orientation Questionnaire (WFOQ; Spence & Helmreich, 1978). To control for order effects the three questionnaires (Sections A, B and C) were assembled into booklets according to their six possible permutations; the booklets were distributed randomly among the 106 subjects. (See Appendix 2 for three questionnaires.)

The Rokeach Value Survey (RVS; Rokeach, 1973) comprised Section A. The RVS consists of two lists of 18 values (Instrumental and terminal values) which subjects are required to rank in order of preference. The first is a list of terminal values. These refer to general goals or "end states of existence" (e.g. freedom, happiness, a world at peace). The second is a list of instrumental values. These refer to means or "modes of conduct" (e.g. broad minded, ambitious, loving). Each value in both lists is accompanied by a short descriptive phrase (e.g. honest is described as sincere, truthful; logical is described as consistent, rationale). The values are listed in alphabetical order. Respondents were requested to number them in order of importance "to you as guiding principles in your life". Subjects were also instructed to decide which value was most important and to place the number 1 in the box alongside. They then decided which value was second in importance and continued to number the remaining values in order of importance. Subjects were requested not to use the same number for more than one value, to work slowly and carefully and if they changed their mind to feel free to change the answers. This was the rationale behind providing the pencil with eraser. (This was a variation on Form D of the Rokeach Value Survey (Rokeach, 1978) whereby gummed labels are used which can be rearranged if desired.) After numbering the first list of terminal values (from 1-18) subjects were asked to follow the same procedure for the second list of instrumental values.

Subjects were presented with the 18 terminal values first, followed by the 18 instrumental values. In this way each subject provided a rank order (from 1-18) of terminal values and a rank order (from 1-18) of instrumental values. For research dealing with the meaning and importance of values see Feather (1987, p.88) and Rokeach (1973, p.79).

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Section B

The Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978) comprised Section B. The PAQ is a 24-item questionnaire. The items are short trait descriptions set up on 5-point bipolar scales (e.g. very passive/very active; not at all emotional/very emotional). Subjects were informed that the items enquire about "what kind of person you think you are". They were instructed to choose a letter between the two extremes of each item which described where they fell on the scale.

The 24 items provide three 8-item scales: masculinity (M), femininity (F) and masculinity/femininity (MF).

Spence and Helmreich (1978) describe the items as "socio-emotional trait descriptions". Items on the M scale were judged in pilot work to be stereotypically more characteristic of males but socially desirable in both sexes. Similarly, items on the F scale were judged to be socially more desirable for women but socially desirable in both sexes. The MF scale contains items that were judged to differ in their social desirability with the ideal man falling toward stereotypical masculinity and the ideal woman toward stereotypical femininity (Spence & Helmreich, 1978).

M, F and MF were scored in the usual way by summing item scores. Each scale has a possible score range from 0-32. The mean M score was 18.6; the mean F score was 22.7, the mean MF was 14.7.

Section C

Section C consisted of the Work and Family Orientation Questionnaire (WOFO; Spence & Helmreich, 1978). It comprises a 32-item questionnaire set up on 5-point bipolar scales. Spence and Helmreich (1978) view it as a multifactorial rather than unitary vehicle of measurement. It comprises six

sub-scales: Mastery; Competitiveness; Work orientation; Job concerns, Personal Unconcern and Spouse concerns. Three final questions investigate separately the amount of education desired; the importance of marriage compared with a job; and how many children the respondent would like to have.

Mastery deals with the desire for intellectual challenge (e.g. "I would rather do something at which I feel confident and relaxed than something which is challenging and difficult."). Competition relates to the desire to succeed in competitive interpersonal situations (e.g. "I enjoy working in a situation which involves competition with others."). Work involves the desire to work hard (e.g. "I find satisfaction in working as well as I can."). Personal unconcern measures activities about possible unpleasant social consequences of achievement and is related to the concept of fear of success (e.g. "I feel that good relations with my fellow workers are more important than performance on a task."). Job assesses concerns with prestige and advancement (e.g. "It is important for me to get a job in which there is opportunity for promotion and advancement."). Spouse gauges attitudes toward employment of spouse (e.g. "Assuming that I get (or am) married I would like my husband or wife to have a job or career that brings recognition and prestige from others.").

Subjects were informed that the statements described reactions to work and challenging situations and asked to indicate how much they agreed or disagreed with each statement "as it refers to yourself" by choosing the appropriate letter on the scale (from A to E).

The WOFO was scored by summing the scores for each sub scale. The three final questions about education, marriage and family were each scored separately. The mean Mastery score was 11.5 (possible range 0-20). The

mean Competition score was 11.1 (possible range 0-20). The mean Work score was 19.3 (possible range 0-24). The mean Personal Unconcern score was 9.9 (possible range 0-16). The mean Job score was 7.9 (possible range 0-12). The mean Spouse score was 8.4 (possible range 0-12).

Form of Analysis

The order of the ranked data from 1 to 18 was transposed to 18 to 1 for correct interpretation of negative and positive relationships. Pearson's correlations were then computed between values and PAQ and WOFO sub-scales. Correlations were also computed between the PAQ and the WOFO. In addition, correlations between the three questionnaires were computed with regard to sex.

The final three questions of the WOFO with regard to marriage, family and education were broken down by sex, PAQ categories and WOFO sub-categories to uncover any significant main effects.

The values data were broken down using an ANOVA to uncover any significant sex differences between the means. Composite rank orders of values were worked out for each sex. In addition, the values data was broken down by PAQ and WOFO sub-scales.

RESULTS

Value Preference and Correlations with the PAQ and WOFO

Tables 1 and 2 present the product-moment correlations computed between measures of value importance and scores from the PAQ and WOFO. The results show that certain values which have previously been classified as agentic/instrumental (Feather, 1984) were involved in small to moderately statistically significant relations with both PAQ and WOFO sub-scales. A comfortable life was positively related to: M scores; MF scores; female scores on Work; Job; male scores on Job; Spouse; and female scores on Spouse. An exciting life was positively related to: M; M male scores; MF male scores; female scores on Mastery; Competition; male scores on Personal Unconcern; and Job. A sense of accomplishment was positively related to: Mastery; female scores on Mastery; Work; female scores on Work; male scores on Job; and male scores on Spouse. Ambitious was positively related to M scores; M female scores; MF male scores, Mastery, female scores on Mastery, Work, male and female scores on Work, Job, and female scores on Job. Independent was positively related to MF scores, MF female scores. It was negatively related to Competition; males who scored high on Competition, and Personal Unconcern. Social recognition was positively related to: M; M male scores; Competition; male scores on Competition; Job; and Male scores on Job. None of these values which were related to M and MF and to the WOFO achievement motivation categories were positively related to F. A sense of accomplishment was negatively related to F and F male scores.

Tables 1 and 2 also show that some of the PAQ and WOFO scores which were positively related to agentic, intrapersonal values, had significant negative relations to some expressive/communal values.

M scores were negatively related to forgiving, as were MF scores for both males and females. Forgiving was also negatively related to MF males; Competition; Male scores on Competition; Job; and male scores on Job. Helpful was negatively related to M scores on Job. Loving was positively related to F; F males; and female scores on Personal Unconcern and negatively related to M scores; MF scores, MF male scores; Job; and male scores on Job. A world of peace was negatively related to M male scores; Competition; and male scores on Competition. A world of beauty was negatively related to M male scores; Competition; male scores on Competition; male scores on Job. Equality was negatively related to male scores on both Job and Personal Unconcern. Freedom was negatively related to: Competition; Job; Spouse; and females who scored high on Spouse.

Two of the communal/expressive values which had significant negative relations to M and MF and most of the achievement motivation sub-scales had significant positive relations with F. They are loving and a world of peace. Loving had significant positive relations to F, F male scores and female scores on Personal Unconcern. World of peace had significant positive relations to F.

As most of the correlations were in the small to moderate range, it seems worth noting the relationships that were more striking in their magnitude. Job, the achievement sub-scale concerned with status and prestige, had higher positive and negative correlations with a number of values. A comfortable life was positively related to male and female Job scores but its correlation with male scores on Job was higher (.58 $p < .000$). Male scores on Job were also moderately related to social recognition (.37 $p < .05$). Loving was negatively related to male scores on

Job ($-.52$ $p < .000$). These results suggest that Job is particularly agentic in its construction.

These results indicate that a cluster of agentic intrapersonal values are involved in statistically significant positive relations with M and MF and most of the achievement motivation sub-categories of the WOFO. However M and MF and the same WOFO sub-categories were negatively related to interpersonal, affiliative values. F is not related to any of these intrapersonal values or achievement motivation sub-categories of the WOFO. However, F is significantly positively related to two communal values, a world of peace and loving.

Hedonic Values

Tables 1 and 2 also show significant positive relations between masculine males and values which fit into a hedonic category. Happiness and cheerful were positively related to M male scores. Females scores on PAQ or WOFO categories were not positively related to any hedonic values. Female scores on M, MF and Spouse were negatively related to happiness. Pleasure was negatively related to female scores on M and to Mastery scores for both sexes. Cheerful was negatively related to Work and female scores on Work. These relationships suggest that masculinity in males is a potent force for emotional well being. However, female students do value happiness. The breakdown of values by sex (Table 3) indicates that females value happiness more than males.

Other values which did not fit within the agentic versus communal distinction or hedonic classifications had significant relations to PAQ and WOFO sub-scales. Salvation, respect and polite were positively related to scores on Work - a possible indication that the weberian work ethic is alive

and well. Honest, which involves ethical rules of conduct, was positively related to femininity and female scores on Mastery and Work. Mature love, an expressive value, was not related to any categories, a result which is probably an indication of the youthful age group of the subjects.

The breakdown of values and orientation towards marriage, family and education yielded the following significant results. Subjects who value forgiving, helpful and family security desired more children. Subjects who valued loving, a world of peace, mature love and family security valued marriage as important or more important than a job. Subjects who valued intellectual, a comfortable life and social recognition desired more education. Subjects who valued obedience, polite, responsibility and salvation desired less education.

These results indicate that the agentic versus communal distinction is involved in future orientations. Those subjects who valued communal/affiliated values were orientated towards marriage and family whereas those subjects who placed importance on agentic/intrapersonal values desired more education. Another dimension is also present in these results. Subjects who valued deferential values desired less education.

Sex Differences in Values

A further analysis was computed using an ANOVA to find out if there were sex differences in value preferences. Tables 3 and 4 present the terminal and instrumental value means and composite rank orders respectively for the male and female subjects in this study. The results indicate that female students valued a world of peace, equality, happiness, national security, helpful, honest and independent significantly more highly than male subjects. Male students valued wisdom and logical more highly than

female students. Some of the values (i.e. a world of peace, equality, helpful) fit the communal distinction of the literature. However, male students' preferences (wisdom and logical) cannot be strictly classified as agentic but could be termed intrapersonal. These results in part overlap with previous studies (Feather, 1984; Rokeach, 1973).

PAQ Broken Down by Sex

Table 5 presents the means and standard deviations of the PAQ broken down by sex using an ANOVA. The results indicate that males and females were more frequently found in their traditional categories with males scoring most frequently in the MF scale. These results replicate previous findings (Feather, 1984; Spence & Helmreich, 1978).

WOFO Broken Down by Sex

Table 6 presents the means and standard deviations of the WOFO achievement scales broken down by sex using an ANOVA. The results indicate sex differences in two sub-scales. Male psychology students valued Competition higher than females and preferred their spouses to hold jobs that bring prestige and recognition. These results differ from the findings of early studies (Spence & Helmreich, 1978) in that the sex difference for Spouse was in the opposite direction.

Correlations Between PAQ and WOFO

Table 7 presents the relationship between PAQ and WOFO sub-scales. Masculinity (M) had significant positive relations to Mastery, Competition and Job. M males had significant positive relations to Mastery, Competition and Job. M females had significant positive relations to Mastery and

Competition. There were no significant relations between femininity (F) and WOFO achievement sub-scales. However, F and F males both had significant negative relations to Job. Masculinity/femininity (MF) and MF males had significant positive relations to Job. There was a small significant relationship between MF females and Personal Unconcern.

DISCUSSION

The results support the assumptions upon which this study is based. Values systems that subjects held were related to their gender schema as measured by the PAQ. Agentic, intrapersonal values were related to masculinity. In turn, both agentic values and masculinity were related to achievement motivation measures of the WOFO. Agentic values were also involved in aspirations towards more education. Femininity was related to communal, interpersonal values. Interpersonal values were implicated in orientations towards marriage and family. These findings support the assumptions of Eccles et al. (1983) who proposed that gender schema and values are part of the self-concept and are critically involved in achievement choice. How critical the involvement is awaits further studies. Most of the correlations were in the small range with some reaching moderate proportions. A regression analysis computed incorporating correlations of greater magnitude accounted for only a small amount of variance. Obviously other variables are involved in achievement motivation. Some of these have been proposed by Eccles et al. (1983). They include expectations, needs, personal causal attribution patterns and self schema apart from gender schema. Never-the-less, this study demonstrated that agentic values are associated with masculinity and that both, in turn, are related to achievement motivation sub-categories (Mastery, Competition, Job, and Spouse). Femininity was related to communal values and they were significantly implicated in orientations towards marriage and family although femininity was not significantly involved.

As well as supporting some of the assumptions of Eccles et al's model of achievement choice, the results are also in accord with current ideas in

achievement motivation theory, in particular expectancy value theory (Atkinson & Feather, 1966; Feather, 1982b, 1984) upon which Eccles et al's model is based. In his recent analysis of the relation of values to action Feather (1984) proposes that "general values (like motives) function to include valences (or incentive values) on certain environmental objects, behaviours and states of affairs so that the psychological environment becomes structured into means and ends that are attractive or aversive. These valences in combination with experiences are assumed to influence the course of action that is taken" (Feather, 1984, p.617). The present study uncovers some of the attractive/aversive means/ends properties of values in that many of the agentic values related to masculinity (e.g. ambitious, an exciting life) were also related to achievement motivation sub-categories (e.g. Job, Competition). Communal values related to femininity which were not consistent with the agentic properties of achievement motivation sub-categories were either not related or were related negatively (e.g. Forgiving, a world at peace). In addition, they were also often negatively related to masculinity (e.g. loving, broadminded). Conversely, some agentic values which were positively related to achievement motivation sub-categories were negatively related to femininity (e.g. sense of accomplishment, social recognition). In addition, subjects who valued communal values (e.g. forgiving, loving) were more orientated towards marriage and family. It seems that these were aspirations consistent with their value systems. If the assumptions of expectancy value theory and Eccles et al's model of achievement choice were taken a stage further to behaviour in a given context, the expectation is that given several options to choose from, individuals are likely to choose an option that is consistent with the values they hold and their gender schema (i.e. an attractive end) and avoid

options which are inconsistent with their values and gender schema (i.e. aversive). These valences would work in combination with expectancies and the other previously mentioned variables involved in motivation. For example, a young graduate student whose value system places importance on being loving, helpful and forgiving may choose to get married and stay home to bring up a family and give up a possibly promising career elsewhere as long as this is consistent with expectations. In another situation individuals who desire little education and value obedience may choose an occupation where they may submit obediently to the direction of authority as long as this fits in with their expectations.

Value Categories

This study found that certain values which can be classified as agentic/instrumental or communal/expressive were associated with masculinity and femininity respectively. This is a replication of the findings of previous studies (e.g. Feather, 1984). In addition, these values either followed through to measures of achievement motivation or were involved in subjects' orientations toward marriage, family and education. The agentic versus communal classification is only one approach to the study of value relations. Other values which do not fit the agentic versus communal distinctions were also related to gender and achievement motivation measures. In particular, two further value categories emerged in this study. Hedonic values and Deferential Values. The three hedonic values of the Rokeach Value Survey (happiness, pleasure and cheerful) were associated with male scores on masculinity and masculinity/femininity. They were not positively related to femininity and both pleasure and happiness were negatively related to female scores on masculinity. This suggests that

masculinity is a more potent force for emotional well-being. These findings are consistent with the literature on gender with regard to psychological health and well-being (see Taylor & Hall, 1982). Two achievement motivation sub-categories were negatively related to hedonic values. Work scores for both sexes were negatively related to cheerful. Mastery scores for both sexes were negatively related to pleasure. These results suggest that challenge, which is associated with Mastery, and effort associated with work are not conducive to positive affect.

Other values which can be classified as deferential values (e.g. obedient and polite) were significantly involved in orientations towards lower educational aspiration in conjunction with two other values (responsibility and salvation), which do not fit the deferential classification. Salvation and polite were also related to Work. These findings hint at the socio/religious origins of these particular value relationships. In future studies it would be interesting to uncover the effect of religious affiliation and social class on these variables. In early studies with the WOFO, Spence and Helmreich (1978) found class differences in work motivation. Lower class males showed less inclination for hard work. In this study polite was also related to female scores on Spouse. It seems that females who would like their spouse to hold well-paid, responsible positions may also hold deferential attitudes towards them.

Gender Schema

A major indication arising from this study is that males and females continue to incorporate traditionally socially-desirable sex stereotypes into their gender schema. The results of the breakdown of the PAQ by sex

(Table 5) found males and females more frequently in the traditional categories of their sex. These results reflect the findings of earlier studies (e.g. Spence & Helmreich, 1978). The implication for gender schema theory (Bem, 1987) is that significant numbers of young males and females regard socially desirable stereotypes as 'real' and process information accordingly. Hence, in this study, they ranked personal and social values into value systems consistent with their gender beliefs. They also made self-assessments of achievement motivation and education, marriage and family orientations in relationship to their conceptions of masculinity and femininity and the values systems associated with them. Thus, gender schema involved prescriptive and evaluative beliefs about preferred modes of conduct. This has been commented on before by other researchers in this area (e.g. Bem, 1987; Feather, 1984).

In addition they have also noted that gender schema like values is not affectively neutral. There appears to be an emotional "oughtness" associated with both cognitive concepts. Further research in this area is indicated. By uncovering the emotional "oughtness" associated with both gender schema and values we would get a better understanding of why people make certain achievement choices. This would not only increase our knowledge of what motivates achievement but what motivates everyday choices that people make which affect their feeling of general well-being.

The WOFO

The findings of this study suggest that mode of expression is a variable which needs to be considered in future studies of gender differences in achievement. The WOFO was originally designed to allow for this by the inclusion of three questions concerned with marriage, family and

education orientations (Spence & Helmreich, 1978). The results demonstrated that students who valued communal/expressive values were more orientated towards marriage and family whereas students who valued agentic values desired more education. The indication is that people are oriented toward goals which are consistent with their values.

As far as the WOFO achievement motivation measures are concerned, the present study found sex differences in two sub-categories (Table 6). Males scored higher on Competition, the achievement motivation category concerned with the desire to succeed in competitive situations. The males in this study also desired wives who have jobs or careers that bring recognition and prestige. These last results with regard to Spouse were in the opposite direction of the authors' findings (Spence & Helmreich, 1978). However, the findings of both males and females in all achievement motivation sub-categories suggest that as a measure of achievement motivation it is a predictive measure suitable for both sexes. Note, there appears to be an assertive, self actualisation quality about two of the achievement measures (Competition and Job). Although they were positively related to scores for both sexes (Table 7), the correlations for masculine males and MF males were greater in their magnitude. Added to this, the results which have been discussed previously indicate that agentic, intra- personal values were related to masculinity and both Job and Competition. These findings on the value and gender relationships to both Job and Competition suggest an explanation for general achievement trends in society. It seems that individuals who are competitive and desire prestige and recognition are more likely to make achievement choices in directions which will involve these qualities. Thus, this may give a psychological explanation for the predominance of males in prestigious occupations which involved social

recognition in our society. Other people who value communal concerns like being loving and helpful are likely to be involved in occupations that are consistent with these qualities or be diverted in competitive situations because of their altruistic concerns.

Overall, this study indicates that gender, values and achievement motivation are inextricably linked. How critical the relationship is has yet to be uncovered. Even so the results provide support for two of the assumptions of the Model of Achievement Choice proposal by Eccles et al. (1984). The assumptions are, among others, that values and gender schema are involved in achievement choice. Masculinity, and values related to masculinity, appeared more potent in measures of achievement motivation. Whereas communal values related to femininity were involved in marriage and family orientations. Some values which do not fit the agentic/instrumental versus communal/expressive dichotomy were linked to masculinity and femininity. Other values also emerged as correlates of both gender and achievement motivations and were also implicated in orientations towards marriage, family and education. Of particular note, hedonic values were related to male scores on both masculinity and masculinity/femininity, an indication that being a stereotypical male is conducive to emotional well-being. This conclusion has previously been arrived at by other researchers in this area (e.g. Taylor & Hall, 1982). Other value relationships fitted into a deferential category, an indication of the socio/religious origins of the variables involved.

Sex role thinking derived from social stereotypes obviously still remains influential and this study demonstrated that beliefs and values associated with socially desirable sex stereotypes continue to be incorporated into the gender schema of young people. Male and female

students fell more frequently into the traditional masculine and feminine categories for their sex while males more frequently fell into the masculinity/femininity category. These results are a reflection of previous findings (e.g. Spence & Helmreich, 1978).

Use of the WOFO which takes into account traditional achievement areas indicates that mode of expression is a variable that requires consideration when it comes to studies on sex and gender differences in achievement. However, the design of the WOFO only allows for this in a limited way. As far as the achievement motivation measures of the WOFO are concerned two sub-categories (Competition and Job) appear to be particularly agentic in their construction. The findings that communal values were not related to these sub-scales or were negatively related suggest a psychological explanation for the predominance of males in positions of status and authority in our society. It appears that individuals who value prestige and are competitive choose occupations which suit or are consistent with their motivational style. The results of this study indicate that these individuals are predominantly males - a finding that reflects the wider social trend. Other individuals of an affiliative ilk are more likely to choose positions which reflect their value systems or be diverted in competitive situations by their altruistic concerns.

This study has drawn together concepts arising from different theoretical perspectives in psychology and demonstrates the relationship between them: motivation theory, gender schema theory from cognitive psychology and values which at first glance appear to sit more comfortably in other social sciences. However the relationships uncovered serve to further indicate the complicated interplay between the individual and society. For future studies it appears important to uncover the involvement

of emotion in the variables which are the subject of this study. By uncovering the emotional "oughtness" associated with these concepts we would gain a better understanding of why males and females continue to incorporate traditional sex stereotypes into their gender schema along with the values and achievement orientations associated with them. As Bem (1987) suggests, gender schema theory is one of process rather than content. A knowledge of what causes the traditional status quo to continue will help us to understand how to go about changing it.

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APPENDIX I

TABLE 1

Product-Moment Correlations Relating Terminal Value Importance to PAQ and WOFO Scores of first year psychology students.

	PAQ									WOFO																	
Variable	Mt	M	F	Ft	M	F	MFt	M	F	Mast	M	F	Comp	M	F	Work	M	F	Pers. Uncon.	M	F	Job	M	F	Spouse	M	F
Terminal Values																											
A comfortable life	.19*	.22	.14	-.05	-.20	.12	.05	.30*	-.16	-.09	-.11	-.07	.28**	.21	.31*	.05	-.13	.22 ⁺	-.01	.04	-.05	.40***	.58***	.27*	.25*	.13	.33*
An exciting life	.18 ⁺	.33 ⁺	.01	-.05	.01	-.08	.10	.29 ⁺	-.10	.11	-.08	.25*	.21*	.24	.15	-.02	-.07	.04	.14	.40**	-.07	.18 ⁺	.18	.18	-.01	-.05	-.02
Sense of accomplishment	.00	-.02	-.08	-.17 ⁺	-.27 ⁺	-.03	-.003	.06	-.15	.18 ⁺	.00	.27*	.12	.11	.06	.23*	.22	.26*	-.06	-.03	-.11	.13	.31*	.00	.12	.28 ⁺	-.05
World of peace	-.12	-.28*	.10	.19*	.21	.11	-.01	-.17	.21	.04	.24	-.06	-.28**	-.35*	-.17	-.14	-.01	-.28*	-.06	-.06	-.01	-.25*	-.32*	-.20	-.10	-.26	.09
World of beauty	-.13	-.42**	.09	.02	-.14	.10	.01	-.20	.19	-.06	.05	-.11	-.23*	-.41**	-.10	-.11	-.09	-.14	.04	-.07	.12	-.13	-.28*	-.04	-.07	-.04	-.05
Equality	-.10	-.21	.07	.14	.05	.17	-.04	-.21	.17	.11	.22	.07	-.14	-.13	-.07	-.002	.10	-.10	-.13	-.34*	.03	-.08	-.30 ⁺	.08	.04	.02	.14
Family Security	-.08	.02	-.12	.07	.01	.09	-.06	-.05	-.03	-.14	-.07	-.18	.02	.07	.02	-.11	-.20	-.05	-.04	-.16	.04	-.14	.01	-.23 ⁺	-.16	-.16	-.13
Freedom	-.14	-.13	-.11	.02	-.01	.02	-.05	-.11	.03	-.07	-.16	-.02	-.20*	-.17	-.20	-.09	-.25	-.05	-.08	-.25	.04	-.19*	.21	-.17	-.25*	-.25	-.23 ⁺
Happiness	-.07	.31*	-.33*	.02	.15	-.17	-.12	.09	-.22 ⁺	-.09	-.08	-.12	-.04	.16	-.12	-.03	-.04	-.02	.00	-.13	.11	-.09	.02	-.15	-.11	.11	-.21*
Inner Harmony	.02	-.19	.22 ⁺	.02	.05	-.04	.11	-.34*	.07	.08	-.11	.19	-.11	-.25	-.003	-.04	.03	-.12	.11	.10	.14	-.09	-.19	-.02	.06	.10	.07
Mature love	-.13	.10	-.31*	.10	.21	.003	-.16	-.11	-.20	-.11	-.03	-.15	-.01	.23	-.17	-.08	.001	-.16	.08	.03	.11	-.01	.006	-.07	-.07	-.05	-.08
National security	.13	.16	.22 ⁺	.06	.02	.04	-.03	.16	-.04	.07	.28 ⁺	.02	.07	.07	.13	.17	.17	.18	-.11	.08	-.16	.07	.25	.01	.08	.13	.13
Pleasure	-.10	.15	-.33	-.01	.07	-.10	.05	.08	.04	-.26**	-.31*	-.23 ⁺	.03	.01	.05	-.12	-.24	.00	.07	.13	.03	.06	.10	.03	.01	.002	.03
Salvation	.15	-.07	-.10	-.13	-.16	.29 ⁺	.05	.10	-.07	.09	.21	-.002	.05	.04	-.001	.20*	.27 ⁺	.12	.07	.08	.03	-.03	-.05	-.02	.07	-.01	.07
Self Respect	.04	-.04	.13	-.13	-.11	-.15	.10	.07	.15	.001	.09	-.06	.02	-.08	.10	.18 ⁺	.12	.23 ⁺	-.06	.06	-.14	.12	-.09	.28*	-.001	.06	.06
Social Recognition	.24*	.30*	.10	-.18 ⁺	-.13	-.16	.16	.15	.07	.04	-.05	.09	.24*	.29 ⁺	.12	-.04	-.03	0.05	.003	-.14	.06	.18 ⁺	.37*	.004	.13	.22	-.03
True Friendship	-.11	-.13	-.03	.16	.26	.01	-.16	-.09	-.16	-.12	.10	-.25*	-.11	-.21	.02	-.05	-.09	0.02	-.02	.16	-.11	-.06	-.22	.06	.04	.04	.10
Wisdom	.01	-.33*	.06	.13	.11	-.02	.02	-.19	-.04	.06	-.22	.22 ⁺	.04	-.17	-.02	.002	.13	-.09	-.01	.05	-.15	-.09	-.23	-.03	.02	.03	-.16

NOTE: PAQ = Personal Attributes Questionnaire;
 Mt = Masculinity Scale;
 Ft = Femininity Scale;
 MFt = Masculinity/Femininity Scale;
 M = Male;
 F = Female;
 WOFO = Work and Family Orientation Questionnaire;
 Mast = Mastery Scale;
 Comp = Competition Scale;
 Work = Work Scale;
 Pers. Unc. = Personal Unconcern Scale;
 Job = Job Scale;
 Spouse = Spouse Scale.

N = 106.
 There were minor variations because of a small number of missing cases (no more than 3)
 Tests of significance are two tailed. *p < .08; *p < .05; **p < .005; ***p < .000.

TABLE 2

Product-Moment Correlations Relating Instrumental Value Importance to PAQ and WOFO Scores of first year psychology students.

Variable	PAQ									WOFO																	
	Mt	M	F	Ft	M	F	Mft	M	F	Mast	M	F	Comp	M	F	Work	m	F	Pers. Uncon.	M	F	Job	M	F	Spouse	M	F
Ambitious	.30**	.21	.48***	.02	-.10	.10	.17 ⁺	.37*	.13	.21*	.11	.30*	.16	.16	.20	.27**	.33*	.22 ⁺	-.03	.12	-.10	.25*	.22	.29*	.05	.13	.05
Broadminded	-.18 ⁺	-.19	-.26*	-.06	.05	-.14	-.08	-.26 ⁺	-.02	-.10	-.02	-.17	-.08	-.03	.17	-.23*	-.09	-.37**	-.09	-.01	-.17	-.16	-.03	-.26*	-.09	-.10	-.14
Capable	.10	.16	-.02	-.15	-.07	-.20	.12	.19	-.01	.17 ⁺	.08	.21	-.07	-.02	-.16	-.07	-.09	-.04	-.09	.12	.05	.14	.22	.07	.11	.12	.06
Cheerful	.08	.33*	-.13	.01	.05	-.05	.04	.08	.02	.06	.03	.08	.04	-.03	-.03	-.23	-.22	-.25*	.002	-.10	.08	.01	.12	-.02	-.02	.02	-.05
Clean	.16	.28 ⁺	.11	-.13	-.03	-.29*	.15	.23	.16	-.007	-.04	.03	-.02	.07	-.04	.05	.06	.03	.17 ⁺	.24	.15	.20*	.31*	.12	.15	.23	.13
Courageous	.14	-.08	.27*	-.01	-.09	.11	-.04	-.01	-.14	.09	.04	.11	.21*	.20	.19	.02	.19	-.12	-.05	-.03	-.08	-.02	-.02	-.03	-.04	-.04	-.09
Forgiving	-.22*	-.18	-.30*	.14	.11	.18	-.16	-.31*	-.07	.03	.22	-.10	-.17 ⁺	-.33*	-.07	.08	.13	.03	.03	-.12	.13	.24	-.33*	-.16	-.08	-.17	-.02
Helpful	-.18 ⁺	-.20	-.07	.15	.18	.04	-.12	-.17	.02	.09	.12	.10	-.10	-.03	-.03	.10	.08	.10	-.04	-.001	-.04	-.14*	-.30*	-.003	-.04	-.17	.15
Honest	-.01	.02	.10	.17 ⁺	.21	.003	-.02	.08	.03	.24*	.25	.30*	.002	.07	.06	.15	.09	.24 ⁺	.01	-.04	.12	.02	-.03	.10	-.19*	-.29 ⁺	-.004
Imaginative	-.006	-.20	.08	-.19*	-.27 ⁺	-.07	.11	-.31*	.13	-.19*	-.10	-.14	-.09	-.10	-.15	-.30**	-.41*	-.21	.08	.12	.02	-.12	-.14	-.13	-.08	-.004	-.19
Independent	.06	.04	.20	-.10	-.17	-.11	.19*	.18	.34*	-.05	-.10	.005	-.17 ⁺	-.26 ⁺	-.02	-.04	-.13	.04	-.18*	-.10	-.21	.04	-.07	.16	.02	.11	.03
Intellectual	.18 ⁺	.11	.21	-.08	-.19	.09	.08	.18	-.05	-.13	-.23	-.08	.23	.23	.20	-.09	-.09	-.09	.008	.04	-.004	.16	.08	.22 ⁺	.04	.15	-.09
Logical	.006	.03	-.17	-.11	-.07	-.08	.10	.09	-.01	-.06	-.12	-.04	-.12	-.12	-.25*	-.12	-.20	-.04	.20*	.24	.13	.05	.02	.05	-.02	.03	-.12
Loving	-.19*	-.23	-.09	.27*	.37*	.13	-.23*	-.43**	-.02	-.11	.02	-.20	-.07	-.08	-.04	-.06	-.05	-.08	.05	-.20	.26*	-.18 ⁺	-.52***	.11	-.09	-.15	.005
Obedient	-.07	.10	-.29*	-.03	-.10	.05	-.17	-.07	-.27*	-.11	.04	-.23 ⁺	.09	.24	-.05	.09	.13	.03	-.18 ⁺	-.35*	-.05	-.08	.13	-.27*	-.03	-.06	.10
Polite	.01	.19	-.17	.06	.12	.002	-.05	.07	-.16	-.11	-.05	-.16	.10	.16	.07	.17 ⁺	.17	.17	.00	.12	-.08	.03	.20	-.10	.15	.01	.26*
Responsible	-.01	.09	-.07	.07	.19	-.11	-.13	-.12	-.10	-.05	.05	-.11	.09	.11	.11	.14	.17	.10	-.13	-.11	-.12	.01	-.07	.11	-.04	-.004	-.04
Self Controlled	-.18 ⁺	-.39*	-.03	-.002	-.14	.20	-.01	-.08	-.02	-.03	-.07	-.02	-.05	-.32*	.11	.14	.10	.20	.01	.21	-.15	.01	.11	-.08	.17 ⁺	.28 ⁺	.03

NOTE: PAQ = Personal Attributes Questionnaire;

Mt = Masculinity scale;

Ft = Femininity scale;

Mft = Masculinity/Femininity Scale;

M = Male;

F = Female;

WOFO = Work and Family Orientation Questionnaire;

Mast = Mastery Scale;

Comp = Competition Scale;

Work = Work Scale;

N = 106.

There were minor variations because of a small number of missing case (no more than 3).

Tests of significance are two tailed. ⁺p < .09; *p < .05; **p < .005; ***p < .000

TABLE 3

Terminal value means and composite rank orders for female and male first year psychology students.

Value		Female	Male	
		No. = 63	41	ρ
1.	A comfortable life	10.2 (13)	9.7 (12)	
2.	An exciting life	7.8 (7)	7.1 (4)	
3.	A sense of accomplishment	10.1 (12)	8.8 (10)	
4.	A world at peace	9.2 (10)	11.4 (13)	.0247
5.	A world of beauty	12.2 (15)	13.3 (17)	
6.	Equality	9.9 (11)	11.7 (14)	.0434
7.	Family security	8.6 (9)	9.4 (11)	
8.	Freedom	6.9 (4)	7.9 (7)	
9.	Happiness	3.7 (1)	5.1 (1)	.0604
10.	Inner harmony	8.0 (8)	8.6 (9)	
11.	Mature love	7.1 (5)	7.4 (5)	
12.	National security	15.1 (18)	16.2 (18)	.0859
13.	Pleasure	7.6 (6)	8.0 (8)	
14.	Salvation	14.9 (1)	13.1 (16)	
15.	Self-respect	6.8 (3)	7.0 (3)	
16.	Social recognition	13.6 (16)	12.4 (15)	
17.	True friendship	4.5 (2)	5.3 (2)	
18.	Wisdom	11.5 (14)	7.9 (6)	.0000

Figures shown are mean rankings and, in brackets, composite rank orders.

TABLE 4

Instrumental value means and composite rank orders for female and male first year psychology students.

Value		Female	Male	
		No. = 62	43	ρ
1.	Ambitious	10.6 (11)	12.0 (16)	
2.	Broadminded	7.6 (6)	6.5 (4)	
3.	Capable	9.3 (9)	8.3 (5)	
4.	Cheerful	5.4 (3)	5.8 (3)	
5.	Clean	12.3 (16)	13.5 (17)	
6.	Courageous	9.5 (10)	8.4 (6)	
7.	Forgiving	9.1 (8)	8.9 (8)	
8.	Helpful	7.4 (4)	9.4 (10)	.0282
9.	Honest	3.7 (1)	5.7 (2)	.0087
10.	Imaginative	10.6 (12)	9.1 (9)	
11.	Independent	7.7 (7)	9.6 (11)	.0293
12.	Intellectual	10.8 (13)	9.9 (12)	
13.	Logical	13.4 (17)	11.5 (15)	.0431
14.	Loving	4.5 (2)	5.5 (1)	
15.	Obedient	15.0 (18)	15.1 (18)	
16.	Polite	11.5 (14)	11.4 (14)	
17.	Responsible	7.6 (5)	8.4 (7)	
18.	Self-controlled	12.0 (15)	11.2 (13)	

Figures shown are mean rankings and, in brackets, composite rank orders.

TABLE 5

Means and Standard Deviations of PAQ Scores of first year psychology students broken down by sex.

		<u>Masculinity</u>		<u>Femininity</u>		<u>Masculinity/ Femininity</u>	
	<u>N</u>	<u>\bar{X}</u>	<u>SD</u>	<u>\bar{X}</u>	<u>SD</u>	<u>\bar{X}</u>	<u>SD</u>
<u>Males</u>	43	21.0	4.5	22.00	4.2	16.0	3.5
<u>Females</u>	61	19.1	3.4	23.2	2.8	14.0	3.5
		sig. = .01		sig. = .08		sig. = .01	

TABLE 6

Means and Standard Deviations of WOFO Scores of first year psychology students broken down by sex.

Mastery			Competi- tion		Work		Job		Personal Unconcern		Spouse	
Sex	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
M	17.81	4.01	12.16	4.0	19.18	3.47	7.98	2.82	10.28	2.44	8.86	2.04
F	17.25	4.29	10.33	3.85	19.34	2.51	7.83	2.50	9.70	2.67	8.05	1.81
ANOVA	ρ		ρ		ρ		ρ		ρ		ρ	
SEX	NS		< .05		NS		NS		NS		< .05	

TABLE 7

The relationship between WOFO scores and PAQ scores of first year psychology students.

	Mastery	Competi- tion	Work	Personal Unconcern	Job	Spouse
<u>Masculine (M)</u>	.31**	.44***	.19*	.04	.34***	.23*
Males	.29 ⁺	.49**	.23	-.06	.36*	.11
Females	.39***	.24 ⁺	.20	.04	.18	.12
<u>Femininity (F)</u>	.17	-.05	.08	.03	-.19*	-.13
Males	.16	-.09	.01	.04	-.36*	-.22
Females	.22	.06	.19	-.06	.01	.02
<u>Masc-Fem (MF)</u>	.16	.10	.01	.14	.24*	.07
Males	.21	.24	.16	-.07	.37*	.07
Females	.10	-.11	.13	.23 ⁺	.14	-.02

⁺ = $p < .07$

* = $p < .05$

** = $p < .005$

*** = $p < .000$

APPENDIX IITHE SURVEYInstructions

The following survey inquires about what kind of person you think you are, the values you hold and your reaction to work and challenging situations.

The questionnaire is anonymous so it is not necessary to put your name on it.

The questionnaire is divided into three SECTIONS. Please follow the instructions for each section **CAREFULLY**. Please answer the questions **HONESTLY** and **ACCURATELY**. Answer the questions on your own. Do not consult with others.

(N.B. This questionnaire consists of 11 pages.)

Please complete below

AGE: _____

SEX: Male _____ Female _____

SECTION A

INSTRUCTIONS

On the next page are 18 values listed in alphabetical order. Your task is to number them in order of their importance to **YOU** as guiding principles in **YOUR** life. There is a box beside each value.

Study the list carefully and decide which value is more important to you. Place the number 1 in the box alongside the value.

Then decide on the value which is second most important to you. Then continue to number the remaining values in order of importance to you. The value which is least important is number 18.

Do not use the same number for more than one value.

Work slowly and think carefully. If you change your mind feel free to change your answers. The end result should truly show how you feel.

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1. A COMFORTABLE LIFE (a prosperous life)	<input type="checkbox"/>	<input type="checkbox"/>
2. AN EXCITING LIFE (a stimulating, active life)	<input type="checkbox"/>	<input type="checkbox"/>
3. A SENSE OF ACCOMPLISHMENT (lasting contribution)	<input type="checkbox"/>	<input type="checkbox"/>
4. A WORLD AT PEACE (free of war and conflict)	<input type="checkbox"/>	<input type="checkbox"/>
5. A WORLD OF BEAUTY (beauty of nature and the arts)	<input type="checkbox"/>	<input type="checkbox"/>
6. EQUALITY (brotherhood, equal opportunity for all)	<input type="checkbox"/>	<input type="checkbox"/>
7. FAMILY SECURITY (taking care of loved ones)	<input type="checkbox"/>	<input type="checkbox"/>
8. FREEDOM (independence, free choice)	<input type="checkbox"/>	<input type="checkbox"/>
9. HAPPINESS (contentedness)	<input type="checkbox"/>	<input type="checkbox"/>
10. INNER HARMONY (freedom from inner conflict)	<input type="checkbox"/>	<input type="checkbox"/>
11. MATURE LOVE (sexual and spiritual intimacy)	<input type="checkbox"/>	<input type="checkbox"/>
12. NATIONAL SECURITY (protection from attack)	<input type="checkbox"/>	<input type="checkbox"/>
13. PLEASURE (an enjoyable life)	<input type="checkbox"/>	<input type="checkbox"/>
14. SALVATION (saved, eternal life)	<input type="checkbox"/>	<input type="checkbox"/>
15. SELF-RESPECT (self-esteem)	<input type="checkbox"/>	<input type="checkbox"/>
16. SOCIAL RECOGNITION (respect, admiration)	<input type="checkbox"/>	<input type="checkbox"/>
17. TRUE FRIENDSHIP (close companionship)	<input type="checkbox"/>	<input type="checkbox"/>
18. WISDOM (a mature understanding of life)	<input type="checkbox"/>	<input type="checkbox"/>

Below is another list of 18 values.

Arrange them in order of importance, the same as before.

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1. AMBITIOUS (hard-working, aspiring)	<input type="text"/>	<input type="text"/>
2. BROADMINDED (open-minded)	<input type="text"/>	<input type="text"/>
3. CAPABLE (competent, effective)	<input type="text"/>	<input type="text"/>
4. CHEERFUL (lighthearted, joyful)	<input type="text"/>	<input type="text"/>
5. CLEAN (neat, tidy)	<input type="text"/>	<input type="text"/>
6. COURAGEOUS (standing up for your beliefs)	<input type="text"/>	<input type="text"/>
7. FORGIVING (willing to pardon others)	<input type="text"/>	<input type="text"/>
8. HELPFUL (working for the welfare of others)	<input type="text"/>	<input type="text"/>
9. HONEST (sincere, truthful)	<input type="text"/>	<input type="text"/>
10. IMAGINATIVE (daring, creative)	<input type="text"/>	<input type="text"/>
11. INDEPENDENT (self-reliant, self-sufficient)	<input type="text"/>	<input type="text"/>
12. INTELLECTUAL (intelligent, reflective)	<input type="text"/>	<input type="text"/>
13. LOGICAL (consistent, rational)	<input type="text"/>	<input type="text"/>
14. LOVING (affectionate, tender)	<input type="text"/>	<input type="text"/>
15. OBEDIENT (dutiful, respectful)	<input type="text"/>	<input type="text"/>
16. POLITE (courteous, well-mannered)	<input type="text"/>	<input type="text"/>
17. RESPONSIBLE (dependable, reliable)	<input type="text"/>	<input type="text"/>
18. SELF-CONTROLLED (restrained, self-disciplined)	<input type="text"/>	<input type="text"/>

SECTION B

INSTRUCTIONS

The items below inquire about what kind of person you think you are. Each items consists of a *pair* of characteristics, with the letters A-E in between. For example:

Not at all Artistic A...B...C...D...E Very Artistic

Each pair describes contradictory characteristics - that is, you cannot be both at the same time, such as very artistic and not all artistic.

The letters form a scale between the two extremes. You are to chose a letter which describes where you fall on the scale. For example, if you think you have no artistic ability, you would choose A. If you think you are pretty good, you might choose D. If you are only medium, you might choose C, and so forth.

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1. Not at all aggressive	A...B...C...D...E	Very aggressive		<input type="text"/>
2. Not at all independent	A...B...C...D...E	Very independent		<input type="text"/>
3. Not at all emotional	A...B...C...D...E	Very emotional		<input type="text"/>
4. Very submissive	A...B...C...D...E	Very dominant		<input type="text"/>
5. Not at all excitable in a <i>major</i> crisis	A...B...C...D...E	Very excitable in a <i>major</i> crisis		<input type="text"/>
6. Very passive	A...B...C...D...E	Very active		<input type="text"/>
7. Not at all able to devote self completely to others	A...B...C...D...E	Able to devote self completely to others		<input type="text"/>
8. Very rough	A...B...C...D...E	Very gentle		<input type="text"/>

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9.	Not at all helpful to others	A...B...C...D...E	Very helpful to others	<input type="checkbox"/>
10.	Not at all competitive	A...B...C...D...E	Very competitive	<input type="checkbox"/>
11.	Very home oriented	A...B...C...D...E	Very worldly	<input type="checkbox"/>
12.	Not at all kind	A...B...C...D...E	Very kind	<input type="checkbox"/>
13.	Indifferent to others' approval	A...B...C...D...E	Highly needful of others' approval	<input type="checkbox"/>
14.	Feelings not easily hurt	A...B...C...D...E	Feelings easily hurt	<input type="checkbox"/>
15.	Not at all aware of feelings of others	A...B...C...D...E	Very aware of feelings of others	<input type="checkbox"/>
16.	Can make decisions easily	A...B...C...D...E	Has difficulty making decisions	<input type="checkbox"/>
17.	Gives up very easily	A...B...C...D...E	Never gives up easily	<input type="checkbox"/>
18.	Never cries easily	A...B...C...D...E	Cries very easily	<input type="checkbox"/>
19.	Not at all self-confident	A...B...C...D...E	Very self-confident	<input type="checkbox"/>
20.	Feels very inferior	A...B...C...D...E	Feels very superior	<input type="checkbox"/>
21.	Not at all understanding of others	A...B...C...D...E	Very understanding of others	<input type="checkbox"/>
22.	Very cold in relations with others	A...B...C...D...E	Very warm in relations with others	<input type="checkbox"/>
23.	Very little need for security	A...B...C...D...E	Very strong need for security	<input type="checkbox"/>
24.	Goes to pieces under pressure	A...B...C...D...E	Stands up well under pressure	<input type="checkbox"/>

SECTION C

INSTRUCTIONS

The following statements describe reactions to conditions of work and challenging situations. For each item, indicate how much you agree or disagree with the statements, as it refers to yourself, by choosing the appropriate letter on the scale, A, B, C, D, or E.

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1. I would rather do something at which I feel confident and relaxed than something which is challenging and difficult.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

2. It is important for me to do my work as well as I can even if it isn't popular with my co-workers.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

3. I enjoy working in situations involving competition with others.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

4. When a group I belong to plans an activity, I would rather direct it myself than just help out and have someone else organize it.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

5. I feel that good relations with my fellow workers are more important than performance on a task.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

6. I would rather learn easy fun games than difficult thought games.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

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7. It is important to me to perform better than others on a task.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

8. I worry because my success may cause others to dislike me.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

9. I find satisfaction in working as well as I can.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

10. If I am not good at something I would rather keep struggling to master it than move on to something I may be good at.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

11. I avoid discussing my accomplishments because other people might be jealous.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

12. Once I undertake a task, I persist.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

13. I prefer to work in situations that require a high level of skill.

A	B	C	D	E
<u>Strongly agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly disagree</u>

☐

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14. There is satisfaction in a job well done.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

15. I feel that winning is important to both work and games.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

16. I more often attempt tasks that I am not sure I can do than tasks that I believe I can do.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

17. I sometimes work at less than my best because I feel that others may resent me for performing well.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

18. I find satisfaction in exceeding my previous performance even if I don't outperform others.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

19. I like to work hard.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

20. Part of my enjoyment in doing things is improving my past performance.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

21. It annoys me when other people perform better than I do.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

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use only

22. I like to be busy all the time.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

23. I try harder when I'm in competition with other people.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

24. It is important for me to get a job in which there is opportunity for promotion and advancement.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

25. Assuming that I get (or am) married, I would like my husband or my wife to have a job or career that pays well.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

26. It is important to my future satisfaction in life to have a job or career that pays well.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

27. Assuming that I get (or am) married, I would like my husband or my wife to have a job or career that brings recognition and prestige from others.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

☐

28. It is important to me to have a job or career that will bring me prestige and recognition from others.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

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29. Assuming that I get (or am) married, it wouldn't bother me if my spouse had a better job than I do.

A	B	C	D	E
<u>Strongly</u> <u>agree</u>	Slightly agree	Neither agree nor disagree	Slightly disagree	<u>Strongly</u> <u>disagree</u>

30. What is the least amount of education that will satisfy you?

a) some university in conjunction with special vocational training beyond high school (e.g. nursing, police, primary teaching.) Specify:

b) academic bachelor's degree (e.g. B.A., B.Sc.). Specify:

c) academic master's degree (e.g. M.A., M.Sc.). Specify:

d) advanced professional qualification (e.g. engineering, law, Dip.Clin.Psych). Specify:

31. How important do you think marriage will be to your satisfaction in life, in comparison to a job?

a) the most important thing; I will work primarily for financial reasons.

b) marriage relatively more important than my work.

c) marriage and my work equally important.

d) marriage relatively less important than my work.

e) marriage is unimportant; I would be reasonably content if I did not marry.

32. How many children would you ideally like to have?

a) 0

b) 1

c) 2

d) 3

e) 4 or more